STIC Search Report
EIC 3700

Scientific & Technical Information Center
USPTO

STIC Database Tracking Number: 99180

TO: Kurt Fernstrom
Location: CP2 10-B-14
Art Unit: 3612

Case Serial Number: 09/932304

From: Jeanne Horrigan
Location: EIC 3700
CP2-2C08
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Search Notes

Attached are the search results for molecular models, including results of inventor and prior art searches in foreign/international patent databases and prior art searches in medical, chemical, and general sci/tech non-patent literature databases. I also searched the web using the Scirus and Google search engines.

The results are organized into four sets: inventor, non-patent literature, foreign and international patents, and Internet.

Results appear after the database names and search strategy used for those results. I tagged the items that I thought seemed most relevant, but **I suggest that you review all of the results.**

Also attached is a search feedback form. Completion of the form is voluntary. Your completing this form would help us improve our search services.

I hope the attached information is useful. Please feel free to contact me (phone 305-5934 or email jeanne.horrigan@uspto.gov) if you have any questions or need additional searching on this application.

sira
Search and Information Resources Administration

STIC Search Results Feedback Form

EIC 3700

Questions about the scope or the results of the search? Contact ***the EIC searcher or contact:***

John Sims, EIC 3700 Team Leader
308-4836, CP2-2C08

Voluntary Results Feedback Form

- *I am an examiner in Workgroup:* ☐ *Example: 3730*
- *Relevant prior art **found**, search results used as follows:*
  - ☐ 102 rejection
  - ☐ 103 rejection
  - ☐ Cited as being of interest.
  - ☐ Helped examiner better understand the invention.
  - ☐ Helped examiner better understand the state of the art in their technology.

  Types of relevant prior art found:
  - ☐ Foreign Patent(s)
  - ☐ Non-Patent Literature
    (journal articles, conference proceedings, new product announcements etc.)
- *Relevant prior art **not found:***
  - ☐ Results verified the lack of relevant prior art (helped determine patentability).
  - ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to STIC/EIC3700 CP2 2C08

"The NSF REU experience gave me confidence in myself as a future engineer and opened my eyes to the idea that I can really make a difference."

Jenna Lang
Colorado School of Mines
Past REU Summer Program Attendee

REU Summer 2002 Students

Donaven Begaye
Junior, Electrical Engineering
Arizona State University

Hong Loan Timmie Bui
Junior, Architectural Engineering
University of Texas-Austin

Mandi Champion
Senior, Industrial Engineering
MSOE

Sarah Fellie
Junior, Aerospace Engineering
Florida Institute of Technology

Dawn Garten
Junior, Civil Engineering
University of Kentucky-Lexington

John Knowles
Senior, Architectural Engineering
MSOE

Thad Ocampo
Senior, Bioelectrical Engineering
Marquette University

Christina Otto
Senior, Chemistry
University of Wisconsin-Whitewater

Adam Schneider
Junior, Mechanical Engineering
MSOE

Research Experience for Undergraduates (REU)

by Dr. Subha Kumpaty, principal investigator

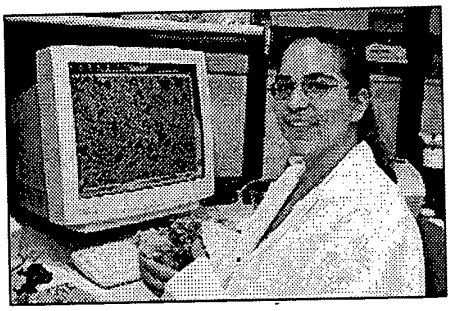
Dr. Subha Kumpaty

MSOE recently was granted $600,000 by the National Science Foundation to extend through 2006 its very successful Research Experience for Undergraduates program.

The REU program involves research projects advancing state-of-the-art applications in the biomedical, aerospace, architectural, manufacturing, composite, biomolecular and electro-optical industries. Each student works closely with a faculty adviser with expertise in a particular research field.

It allows undergraduates to gain hands-on experience in conducting original research and pursuing cutting-edge applications of solid free-form fabrication that cuts across virtually all disciplines. Funded by the National Science Foundation and MSOE's Rapid Prototyping Consortium, students arrive from all parts of the country with diverse university experiences, skill levels, interests, and science and engineering backgrounds.

This year's summer program includes nine students who work 40 hours per week learning about all facets of research and rapid prototyping.



Andrea Gresens, an MSOE biomedical engineering student who participated in REU last summer.

National Conference on Undergraduate Research held

Nine REU students and four faculty and staff members represented MSOE at the **National Conference on Undergraduate Research (NCUR)** at the University of Wisconsin-Whitewater in May. NCUR's purpose is to promote undergraduate research, scholarships and creativity in all fields of study. MSOE's students, staff and faculty alike excelled in their presentations. UW-Whitewater Graduate School Dean Richard Lee says "undergraduate research as a learning tool pulls together a number of critical skills that are in high demand in the workplace. These include critical thinking, independent project management, developing and testing theories, and understanding how to collect and analyze reliable empirical data."

Dr. Subha Kumpaty, REU's principal investigator, of MSOE's Mechanical Engineering Department adds "students were taught basic skills, such as documenting receipts on an expense report, appropriate dress and behavior, and eating dinner in a restaurant as a professional group."

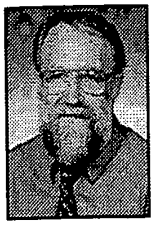
REU students were the only students out of 1,800 participants presenting research in rapid prototyping.

High School Intern in RPC

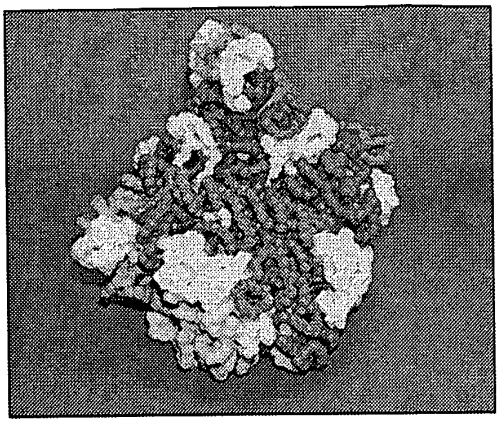
Michael Acker, a senior at University Lake School in Hartland, Wis., interned for three weeks in the Rapid Prototyping Center. He worked with Manager of Operations Sheku Kamara and other employees to design a gear. He did so through library research, learning Solid Works and rapid prototyping to prepare his part for production on the RP machines. Upon returning to the University Lake School, Acker reported on his research to parents, students and teachers via a PowerPoint presentation. Acker plans on studying mechanical engineering at MSOE this Fall.

Center for BioMolecular Modeling

by Dr. Timothy Herman, director, Center for BioMolecular Modeling



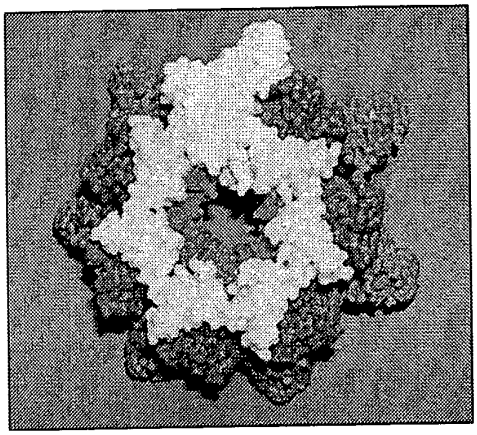
Dr. Timothy Herman



Two of the science education outreach programs run by the Center for BioMolecular Modeling (CBM) have achieved remarkable accomplishments in the past year.

The 3D Translation Team is featured in an article that appears in the spring issue of the *Howard Hughes Medical Institute Bulletin.* This article highlights how these teachers, equipped with technology from the CBM, were able to work with researchers to produce the world's first-ever physical models of the ribosome (pictured right).

The Center also has worked with a team of three high school students from Riverside University High School to produce the world's first three-dimensional, physical models of the proteins involved in anthrax pathogenesis (shown below). These models have been shared with leading researchers who are working to develop new drugs that will be used to neutralize the effect of these toxic proteins following infection. These models were distributed by researchers to members of a special congressional hearing when they testified regarding how their research programs would prepare our country to respond to the threat of bioterrorism.



CBM uses rapid prototyping technology to produce accurate, three-dimensional physical models of proteins and other biomolecules useful in both research laboratories, and in secondary and post-secondary science classrooms.

"I didn't know our software could do that."
Mark Bliek, Materialise

Research and Development

by Vito Gervasi, manager of research, RPC

Vito Gervasi

What do you get when you mix a group of MSOE engineering students with several technologies including 3D systems solid imaging, CAD modeling and mold-making software, and a rapid tooling process like PHAST? Production tooling for a first-of-its-kind molecular model kit that will accompany immunology textbooks! The RPC Undergraduate Research Team won the bronze at the 2002 Stereolithography User's Group meeting in San Diego, Calif. The entry, "SLA Makes Mold of Protein Model Possible," was presented by Chris Boll, Jay Bollman, Marcus Poppler, Andrew Schumacher (not shown) and Gunnar Vikberg (right). The PHAST process and stereolithography patterns were used to make the very complex production mold possible.

The protein molecule parts will eventually accompany an immunology textbook to become the first-of-its-kind classroom instruction enhancement. Align Technologies took home the gold, while Benet Labs was the first runner up.